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NMRC Hosts a Malaria Vaccine Symposium at the 64th ASTMH Meeting

Released: 1/3/2017

From NMRC Public Affairs



Capt. Judith Epstein, Clinical Director of the NMRC Malaria Vaccine Development Program, hosted a Malaria Vaccine Symposium at the American Society of Tropical Medicine and Hygiene (ASTMH) annual meeting, November 13-17 in Atlanta, Georgia.

SILVER SPRING, Md. – The Naval Medical Research Center (NMRC) hosted a Malaria Vaccine Symposium at the American Society of Tropical Medicine and Hygiene (ASTMH) annual meeting, November 13-17 in Atlanta, Georgia.

Symposium coordinator, Capt. Judith Epstein, Clinical Director of the NMRC Malaria Vaccine Development Program, focused discussions on the safety, tolerability, immunogenicity, and efficacy results from four clinical trials focusing on vaccine development.

“It was my intention to bring together global leaders in the malaria vaccine development process and review the progress that has been made in the last year with the attenuated whole parasite approach as we move toward licensure of an effective malaria vaccine,” said Epstein. “This is so important for the Department of Defense, because without a vaccine, deployed troops are required to take medication for the duration of their deployment. U.S. military forces are at great risk of developing malaria while deployed in endemic areas. In fact, more person-days were lost among U.S. military personnel due to malaria than to bullets during every military campaign fought in malaria-endemic regions during the 20th century,” said Epstein.

Those who attended the malaria vaccine symposium heard the results of clinical trials assessing PfSPZ Vaccine both in malaria-naïve and semi-immune individuals and PfSPZ-CVac in malaria-naïve individuals.

“Both PfSPZ Vaccine and PfSPC CVac malaria vaccine have the potential to meet the 76 percent efficacy threshold as defined by the updated malaria vaccine technology roadmap of the World Health Organization (WHO),” said Epstein, “This ground breaking potential is underlined by the

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first results with PfCVac showing 100 percent protective efficacy against controlled human malaria infections. It was exciting to hear all the presentations at the symposium.”

The WHO Vaccine Technology Roadmap represents malaria vaccine researchers from around the world working together to form a strategic framework with the goal of having licensed vaccines for use by the international public health community.

During the symposium Epstein explained that the goal is for the PfSPZ Vaccine to provide both short and long-term protection against different malaria strains. According to Epstein, protection against diverse strains of malaria is key.

“People generally get infected with multiple strains. In addition, strains may differ from one region to the next. For example, Cambodia has different strains from the malaria strains found in West Africa.” said Epstein. “It is important that a vaccine made from one strain provides protection from other strains.”

“To address the threat of malaria, NMRC researchers have been investigating methods to control and conquer malaria for more than two decades. This comprehensive research program is at the forefront of malaria research and vaccine development worldwide,” added Epstein.

The primary focus of the NMRC Malaria Program is to develop a vaccine that kills the malaria parasite during its first few days of development in the liver of an infected individual, before it breaks out into the blood stream. If this approach is successful, it will prevent the clinical manifestation of malaria.

The program ranges from discovery research to clinical trials of candidate vaccines, carried out in the NMRC clinical trials center on the campus of the Walter Reed National Military Medicine Center, Bethesda, Maryland.

Successful vaccines can be transition to testing in field settings, with collaborating institutions in Africa, Asia, and South America. The program also benefits from Navy Medicine’s overseas research laboratories, which allow the study of the epidemiology of malaria in its native habitat, and also help coordinate field testing.

Malaria, a mosquito-borne infection, kills more than one million people annually; most are children under the age of five. Over three billion people, most living in tropical regions, are exposed to malaria, and 500-600 million clinical infections occur every year. Even when a person survives malaria, the infection can be incapacitating for several weeks. Currently, there is no commercially available malaria vaccine at this time.

Epstein has led clinical trials of candidate malaria vaccines covering a number of platforms including DNA, recombinant and adenovirus-vectored vaccines. The major focus of her research has been the development and testing of a whole-parasite malaria vaccine.

ASTMH, founded in 1903, is the largest international scientific organization of experts dedicated to reducing the worldwide burden of tropical infectious diseases and improving global health. ASTMH accomplished their mission through generating and sharing scientific evidence, information health policy and practices, fostering career development, recognizing excellence, and advocating for investment in tropical medicine and global health research.

ASTMH 2016

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